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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,515	02/14/2001	Soren Haubold	GR 98 P 2340 P	2099
24131	7590	04/19/2004	EXAMINER	
LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480			CHEN, TSE W	
			ART UNIT	PAPER NUMBER
			2116	9

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,515

Applicant(s)

HAUBOLD, SOREN

Examiner

Tse Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment A dated March 15, 2004.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on February 14, 2001 was filed before the mailing date of the first Office Action. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

3. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 120 for the International Patent Application PCT/DE99/02388, filed August 2, 1999.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 11-12 and 14-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Wendelrup et al., U.S. Patent 5943613, hereinafter Wendelrup.

6. As per claim 1, Wendelrup taught an invention to reduce power consumption in communication processing devices, the invention comprising of:

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- Providing a clock frequency based on a quartz frequency of a clock quartz to a device for determining a clock time [column 1, lines 29-33]; and
- Providing the clock frequency to a processor device during operational time periods of low or no processor load and otherwise providing a different clock frequency to the processor device [FIG. 3, items 10, 22; column 2, lines 24-30; column 3, lines 2-12].

7. As per claim 2, Wendelrup taught:

- Selecting a clock signal as a function of processor load such that during operating periods with little or not processor load, the same clock signal is provided to a processor device as to the device for determining a clock time [column 2, lines 24-30]; and
- During operational time periods with processor loading, providing a clock signal based on a system clock to the processor device [column 1, lines 22-28; column 3, lines 2-4].

8. As per claim 3, Wendelrup taught generating the quartz frequency with a clock quartz [column 1, lines 31-33; column 3, lines 55-56].

9. As per claim 11, Wendelrup taught claimed method; therefore, Wendelrup taught the configuration for method.

10. As per claim 12, Wendelrup taught an invention to reduce power consumption, the invention comprising of:

- Generating a quartz frequency as a function of a quartz clock [column 1, lines 31-33];

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- Providing the quartz frequency to a real time clock [column 1, lines 29-31];
- Selecting a clock frequency as a function of processor load [column 2, lines 24-30];
- Generating a clock signal based on the selected clock frequency [FIG. 1]; and
- Providing the generated clock signal to the processor device [column 3, lines 2-10];

11. As per claims 14 and 15, Wendelrup taught selecting a clock frequency as a function of processor load such that during operating periods with little or no processor load, the same clock frequency is selected as the one for the real-time clock [column 1, lines 29-33; column 2, lines 24-30].

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wendelrup, as applied to claims 1 and 2 above, and further in view of Harper et al., U.S. Patent 5560024, hereinafter Harper.

14. As per claim 4, Wendelrup taught an invention to reduce power consumption in a processing device by utilizing the same clock signal driving a real time clock to drive the processing device during low or no processor load.

15. However, Wendelrup did not disclose expressly a clockless state.

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16. Harper taught a power management system comprising of a real time clock and various power states including a clockless state during operation time periods with no processor load [column 4, lines 38-43].

17. An ordinary artisan at the same time the invention was made would have been motivated to look for a way to reduce power consumption for a device that performs real-time maintenance and other processing functions that utilize different clock frequencies [see Harper: column 4, lines 11-28].

18. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Wendelrup because of the aforementioned motivation and also their involvement in similar problems regarding power conservation in systems with multiple devices utilizing different clock frequencies.

19. As per claim 5, Harper taught clocking the processor device with a reduced frequency during operational time periods with low processor load, the reduced frequency being lower than the frequency of the system clock and higher than the quartz frequency or the frequency derived therefrom [FIG. 1; column 7, lines 1-7].

20. As per claim 6, Harper taught initiating, with the processor device, a selection of a clock frequency to be fed to the processor device, being lower than a current frequency fed to the processor device [column 7, lines 18-19, lines 30-32].

21. As per claim 7, Harper taught initiating, with the processor device, a selection of a clock frequency to be fed to the processor device, being higher than a current clock frequency fed to the processor device [column.7, lines 8-16].

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22. As per claim 8, Harper taught initiating, with external events, a selection of a clock frequency to be fed to the processor device, being higher than a current clock frequency fed to the processor device [column 7, lines 8-16].

23. As per claim 9, Harper taught initiating, after expiration of a predefined time period, a selection of a clock frequency to be fed to the processor device, being higher than a current clock frequency fed to the processor device [column 7, lines 8-16].

24. As per claim 10, Harper taught temporarily switching off not-required components of an apparatus as a function of the clock frequency fed to the processor device [column 7, lines 30-36].

25. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wendelrup as applied to claim 12 above.

26. Wendelrup taught a power management system and disclose expressly two power modes [column 3, lines 4-5]. However, it would have been obvious for an ordinary artisan to configure the teachings of Wendelrup to other power management systems employing more than two power modes with associated clock frequencies comprising of a quartz clock frequency, a real-time clock frequency, a standby clock frequency, and a system clock frequency.

27. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wendelrup as applied to claim 12 above, and further in view of Harper et al., U.S. Patent 5560024, hereinafter Harper.

28. Wendelrup taught an invention to reduce power consumption in a processing device by utilizing the same clock signal driving a real time clock to drive the processing device during low or no processor load.

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29. However, Wendelrup did not disclose expressly the details of a wakeup mechanism or suggest a different setting to incorporate the power management system.

30. Harper taught a power management system comprising of a real time clock and various clock frequencies, the selecting of a clock frequency as a function of processor load is based in part on received processor control signals, interrupt control signals, and timer control signals [column 7, lines 57 to column 8, line 13].

31. An ordinary artisan at the same time the invention was made would have been motivated to look for a way to reduce power consumption for a device that performs real-time maintenance and other processing functions that utilize different clock frequencies [see Harper: column 4, lines 11-28].

32. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Wendelrup because of the aforementioned motivation and also their involvement in similar problems regarding power conservation in systems with multiple devices utilizing different clock frequencies.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Korhonen et al., U.S. Patent 5378935, disclosed an invention operable to select and generate multiple clock frequencies.

b. Thomas et al., U.S. Patent 5974557, disclosed a power management system operable to select the appropriate clock frequency based on the usage factor and a thermal characteristic.

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c. Watts, Jr. et al., U.S. Patent 5218704, disclosed a power management system operable to select the appropriate clock frequency based on the usage factor.

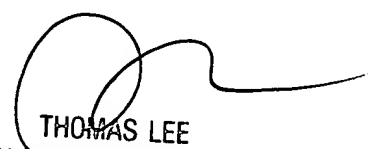
d. Khullar et al., U.S. patent 6009319, disclosed an invention to reduce power consumption with selective use of low and high accuracy clock sources.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (703) 305-8580. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen
March 31, 2004



THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100